

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

RHIC Operations Procedures Manual

**4.62 PROCEDURE FOR TEST AND MAINTENANCE OF PASS
SYSTEM EQUIPMENT AND SOFTWARE (WHEN MAGNETS ARE COLD)**

Text Pages 1 through 6
Attachment(s) 1, 2, 3, 4, 5, 6

Hand Processed Changes

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Revision No. 0

Approved:

Satoshi Ozaki

4/19/99

RHIC Project Director

Date

Preparer(s): R. Frankel

RHIC-OPM 4.62

Date Issued: April 15, 1999

Category A

**4.62 Procedure for Test and Maintenance of PASS
System Equipment and Software (When Magnets are Cold)**

1.0 Purpose and Scope

- 1.1 Enumerate the scope of permitted testing and maintenance, which can be performed while magnets are cooled to 50 K or lower, while the prompt radiation hazard is in a safe-off state.
- 1.2 Define the extent and nature of requalification testing to recertify a modified or repaired Division.
- 1.3 Define the response in the event of multiple equipment failures.

2.0 Responsibilities

- 2.1 Members of the RHIC Safety Section are responsible to:
 - a. Conduct this procedure.
 - b. Document tests performed, problems found and repairs in the PASS Maintenance logbook.
 - c. Document software revisions in the PASS Test logbook.
 - d. Complete the “requalification” test Checklist.
 - e. Place the latest certified software in the 911 laboratory “lockbox.”
- 2.2 The RHIC Safety Section Head shall report any as-found unsafe radiation related failures to the Head of the AGS/RHIC Radiation Safety Committee. Report any as-found unsafe ODH related failure to the Head of the RHIC Accelerator Safety Systems Committee. Report all unsafe failures to the Assistant to RHIC Project Director for ES&H.
- 2.3 As appropriate, the Safety Committee Heads or their designees shall review test results and determine whether any additional testing or access restrictions are required.
- 2.4 MCR or Cryogenics Operations Personnel shall direct tester response during a multiple equipment failure situation.

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3.0 Prerequisites

3.1 Minimum Personnel

- a. Two qualified members of the RHIC or AGS Safety Sections are required.

3.2 Training

Safety Section Personnel:

- a. RHIC Access Safety Training
- b. ODH Training

MCR and Cryogenic Section Watch Personnel: Training on the proper response to a loss of PASS Fan and Vent Control.

3.3 Medical Clearance

Safety Section Personnel:

- a. ODH Medical Clearance by the Occupational Medical Clinic (OMC) is required in conjunction with ODH training.

3.4 Equipment

Safety Section Personnel:

- a. S-key or Access Card.
- b. Personal ODH Monitor as necessary for entering ODH Class 1 areas or as directed by Operations personnel.
- c. Portable Escape Pack as necessary for entering ODH Class 1 areas or as directed by Operations personnel.
- d. CA and Sweep Keys as appropriate.

- 3.5 The following PASS Gate and ODH procedures shall be executed before execution of OPM 4.62:

WARNING

OPM 4.62 requires that the following PASS Gate and ODH Procedures for the Sectors being tested have been successfully executed, reviewed and approved within the last six months. The recertification process conducted by OPM 4.62 depends upon equipment status established by the following prerequisite procedures to ensure the proper levels of gate and ODH safety.

	ODH Procedures	Gate Procedures
12 o'clock	OPM 4.1201	OPM 4.1205
2 o'clock	OPM 4.201	OPM 4.205
4 o'clock	OPM 4.401	OPM 4.405
6 o'clock	OPM 4.601	OPM 4.605
8 o'clock	OPM 4.801	OPM 4.805
10 o'clock	OPM 4.1011	OPM 4.1005

4.0 Precautions

None

5.0 Procedure

WARNING

This procedure enables testing and maintenance of portions of the PASS system while the system is functioning to provide ODH related safety. Since the certification of a Division of PASS may lapse for up to 12 hours and, since OPM 4.62 is a Category A procedure, the limitations to the execution of this procedure and response to its procedural steps shall be followed without deviation.

This procedure prohibits software deletions, modifications and/or additions to the following PLC code areas: Gate Systems for “Safe Access” (SA) or “Restricted Access” (RA), ODH Sensor monitoring code, Alarm, Fan and/or Vent control code. Changes to the tested hardware of Gate Sensor switches, Gate Control Boxes, ODH Sensors, ODH Alarms and Fan and Vent Controls are also prohibited, except for replacement or repair of defective hardware with approved spares. Failure to follow this Warning could result in loss of ODH protection and/or Access control.

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5.1 Prepare for Testing

- 5.1.1 Ensure that all the field PLC units in both the “A” and “B” Divisions, with the exception of one unit in one Division, have their key switches in the RUN position. Confirming entries shall be made in the PASS Test logbook.
- 5.1.2 At each entry gate to the area under test post a notice that states “The PASS System is Under Test”, current date, a contact Beeper number for additional information and the fact that full response by any individual in the area to any ODH alarms is required.
- 5.1.3 Enter the current “certified” software release number and its release date in the PASS Test logbook.
- 5.1.4 Remove and Tagout any PV550 units from the Data Highways.
- 5.1.5 Enter the current time in the PASS Test logbook.

CAUTION

Consistent with the scope of the test effort, software reloads or downloads are to be kept to a minimum, If at all possible correct multiple problems with a single download.

WARNING

Code changes within the subroutines containing ODH related rungs are not permitted within the scope of this procedure. If such an error is found, the tester shall immediately reinstall the latest “certified code” version in order to return the system to a previously established safe operating state. Failure to use the certified ODH code could result in a loss or degradation of ODH protection

- 5.2 Testing team may proceed with their test schedule subject to the following limitations:

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5.2.1 Testing in Mode 24

Since, ODH response is minimal for Mode 24, Beam Mode, it is necessary to perform actual sweeps (evicting all, personnel not involved with the procedure) before command translations to Beam Mode are made. Log the sweep in the Test logbook.

After the initial Mode 24 Beam Mode is achieved, the PV550 units may be “reattached” and used for further testing provided the system is kept above RA Mode.

5.2.2 Recertification

All PV550 control panels shall be removed and the recertification checklist shall be initiated and its successful completion logged, if work under the control of this procedure exceeds ten hours.

5.2.3 Failure to achieve recertification shall result in an immediate area sweep to expel all non-safety section personnel who may be within the affected Sectors or Experimental Interaction Region and the entry gate shall be posted with No Entry notices. Until the system is restored and recertified, access to the affected area shall be treated as ODH Class I.

5.2.4 After Completion of the days testing all notices shall be removed and all LOTO reinstalled. The test logbook shall contain the name and date of the latest recertified software. A secure copy of the latest secure software shall be placed in the 911 laboratory “lockbox.”

5.3 Response to Equipment or System Failures

5.3.1 If new non-ODH related code is downloaded to the target PLC being tested or a PLC component has failed and cannot be rapidly exchanged and it has not proved possible to restore basic functionality within two hours, then testing must be halted.

5.3.2 Attempt to restore functionality by a return to the most recent “certified code”. If this does not prove possible, conduct an area sweep to expel all personnel who may be within the effected Sectors or Experimental Interaction Region. Notify MCR Operations.

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- 5.3.3 If an alarm is received that indicates that both members of a PLC pair in a given area have “failed” or have stopped communicating, then notify MCR Operations and follow instructions.

6.0 Documentation

6.1 PASS Maintenance Log Book

6.2 PASS Test Log Book

7.0 References

None

8.0 Attachments

1. PASS Recertification Checkoff List - PEER 13 ODH (12 O’Clock)
2. PASS Recertification Checkoff List - PEER 11 ODH (2 O’Clock)
3. PASS Recertification Checkoff List - PEER 9 ODH (4 O’Clock)
4. PASS Recertification Checkoff List - PEER 7 ODH (6 O’Clock)
5. PASS Recertification Checkoff List - PEER 17 ODH (8 O’Clock)
6. PASS Recertification Checkoff List - PEER 15 ODH (10 O’Clock)

Fill Out Reading Acknowledgment Form

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Attachment 1

PASS Recertification CHECKOFF LIST
PEER 13 ODH (12 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 13.

ODH devices to be tested: **Sensors:** 11AS1, 11AS2, 12XAS1, 12XAS2, 12XAS3, 12AS1, 12AS2 & 12AS3; **Fans** 11EF2, 12XEF1, 12XEF2, 12EF1, 1EF1 & 1012A; **Vents** 11AV2, 11AV3, 12AV1, 12AV2, 12AV3 & 1AV1; **Bldg. 1012A Fan and Vent; Fans and Vents in adjacent zones 10Z2 and 1Z1.**

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor **11AS1 (ODH box 11CB2)**

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 11CB2		G
VERIFY	that with Operator Interface that 11AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 11CB2 are	FLASHING	G
VERIFY	that the sonalerts on 11CB2 are	SOUNDING	G
VERIFY	that fan 11EF2 is	ON	G
VERIFY	that vent 11AV2 is	OPEN	G
VERIFY	that vent 11AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 11CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 11EF2 is	OFF	G
VERIFY	that vent 11AV2 is	CLOSED	G
VERIFY	that vent 11AV1 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 11AS1		G

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(Attachment 1 cont'd)

Sensor 11AS2 (ODH box 11CB4)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 11CB4		G
VERIFY	that with Operator Interface that 11AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 11CB4 is	FLASHING	G
VERIFY	that the sonalerts on 11CB4 are	SOUNDING	G
VERIFY	that fan 12XEF1 is	ON	G
VERIFY	that vent 11AV2 is	OPEN	G
VERIFY	that vent 11AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 11CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 12XEF1 is	OFF	G
VERIFY	that vent 11AV2 is	CLOSED	G
VERIFY	that vent 11AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **11AS2** **G**

Sensor 12XAS1 (ODH box 12XCB2)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 12XCB2		
G			
VERIFY	that with Operator Interface that 12XAS1 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 12XCB2 is	FLASHING	G
VERIFY	that the sonalerts on 12XCB2 are	SOUNDING	G
VERIFY	that fan 12XEF1 is	ON	G
VERIFY	that vent 11AV2 is	OPEN	G
VERIFY	that vent 11AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 12XCB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 12XEF1 is	OFF	G
VERIFY	that vent 11AV2 is	CLOSED	G
VERIFY	that vent 11AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **12XAS1** **G**

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(Attachment 1 cont'd)

Sensor **12XAS2** (ODH box **12XCB3**)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 12XCB3		
G			
VERIFY	that with Operator Interface that 12XAS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 12XCB3	FLASHING	G
VERIFY	that the sonalerts on 12XCB3 are	SOUNDING	G
VERIFY	that fan 12XEF2 is	ON	G
VERIFY	that vent 12AV1 is	OPEN	G
VERIFY	that vent 12AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 12XCB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 12XEF2 is	OFF	G
VERIFY	that vent 12AV1 is	CLOSED	G
VERIFY	that vent 12AV2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 12XAS2			G

Sensor **12AS1** (ODH box **12CB1**)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 12CB1		G
VERIFY	that with Operator Interface that 12AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 12CB1 is	FLASHING	G
VERIFY	that the sonalerts on 12CB1 are	SOUNDING	G
VERIFY	that fan 12XEF2 is	ON	G
VERIFY	that vent 12AV1 is	OPEN	G
VERIFY	that vent 12AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 12CB1		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 12XEF2 is	OFF	G
VERIFY	that vent 12AV1 is	CLOSED	G
VERIFY	that vent 12AV2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 12AS1			G

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(Attachment 1 cont'd)

Sensor 12AS2 (ODH box 12CB3)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 12CB3		G
VERIFY	with Operator Interface that 12AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 12CB3 is	FLASHING	G
VERIFY	that the sonalerts on 12CB3 are	SOUNDING	G
VERIFY	that fan 12EF1 is	ON	G
VERIFY	that vent 12AV2 is	OPEN	G
VERIFY	that vent 12AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 12CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 12EF1 is	OFF	G
VERIFY	that vent 12AV2 is	CLOSED	G
VERIFY	that vent 12AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **12AS2** **G**

Sensor 12AS3 (ODH box 12CB4)

PLACE	PEER 13 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 12CB4		G
VERIFY	that with Operator Interface that 12AS3 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 12CB4 is	FLASHING	G
VERIFY	that the sonalerts on 12CB4 are	SOUNDING	G
VERIFY	that fan 1EF1 is	ON	G
VERIFY	that vent 12AV3 is	OPEN	G
VERIFY	that vent 1AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 12CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 1EF1 is	OFF	G
VERIFY	that vent 12AV3 is	CLOSED	G
VERIFY	that vent 1AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **12AS3** **G**

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(Attachment 1 cont'd)

Test **Emergency fan ON/OFF** controls at **12GE1**.

PRESS	emergency fan ON button at gate 12GE1		G
VERIFY	that fan 11EF2 is	ON	G
VERIFY	that fan 12XEF1 is	ON	G
VERIFY	that fan 12XEF2 is	ON	G
VERIFY	that fan 12EF1 is	ON	G
VERIFY	that fan 1EF1 is	ON	G
VERIFY	that vent 11AV2 is	OPEN	G
VERIFY	that vent 11AV3 is	OPEN	G
VERIFY	that vent 12AV1 is	OPEN	G
VERIFY	that vent 12AV2 is	OPEN	G
VERIFY	that vent 12AV3 is	OPEN	G
VERIFY	that vent 1AV1 is	OPEN	G
VERIFY	that vent 11AV1 is	OPEN	G
PRESS	emergency fan OFF button at gate 12GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 11EF2 is	OFF	G
VERIFY	that fan 12XEF1 is	OFF	G
VERIFY	that fan 12XEF2 is	OFF	G
VERIFY	that fan 12EF1 is	OFF	G
VERIFY	that fan 1EF1 is	OFF	G
VERIFY	that vent 11AV2 is	CLOSED	G
VERIFY	that vent 11AV3 is	CLOSED	G
VERIFY	that vent 12AV1 is	CLOSED	G
VERIFY	that vent 12AV2 is	CLOSED	G
VERIFY	that vent 12AV3 is	CLOSED	G
VERIFY	that vent 1AV1 is	CLOSED	G
VERIFY	that vent 11AV1 is	CLOSED	G
CHECK	for test acceptance of 12GE1 Emergency ON/OFF fan controls		G

. Test response of ODH sensor for the **1012A Service Building**.

. Sensor 12XAS3 ; (ODH box 12XCB5)			
OPEN	ODH box 12XCB5		
PLACE	a jumper between TP2 and TP4 in 12XCB5		G
VERIFY	with Operator Interface that 10XAS3 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 12XCB5 is	FLASHING	G
VERIFY	that the sonalerts on 12XCB5 are	SOUNDING	G
VERIFY	that 1012A fan is	ON	G
VERIFY	that 1012A vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 12XCB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1012A fan is	OFF	G
VERIFY	that 1012A vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **12XAS3** **G**

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(Attachment 1 cont'd)

. Test response of External Gate **12GE1** for Pass or Fail.

PLACE	PEER 13 in Safe Access (Mode 2) .		G
VERIFY	that PEER 13 is in	MODE 2	G
ATTEMPT	to open gate 12GE1 with Super blue Card	FAIL	G
OPEN	12GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 12GE1		G
CHECK	for test acceptance of Gate 12GE1		G

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Attachment 2

PASS Recertification CHECKOFF LIST
PEER 11 ODH (2 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 11.

ODH devices to be tested: **Sensors:** 1AS1, 1AS2, 1AS3, 2XAS1, 2XAS2, 2XAS3, 2AS1, 2AS2, 2AS3 & 2AS4; **Fans** 1EF2, 1EF3, 1EF4, 2XEF1, 2EF1, 2EF2 & 3EF1 ; **Vents** 1AV2, 1AV3, 2XAV1, 2XAV2, 2XAV3, 2AV1, 2AV2 & 3AV1; **Bldg. 1002B Fan and Vent; Fans and Vents in adjacent zones 12Z2 and 3Z1.**

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor **1AS1 (ODH box 1CB2)**

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 1CB2		G
VERIFY	that with Operator Interface that 1AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 1CB2 are	FLASHING	G
VERIFY	that the sonalerts on 1CB2 are	SOUNDING	G
VERIFY	that fan 1EF2 is	ON	G
VERIFY	that vent 1AV2 is	OPEN	G
VERIFY	that vent 1AV1 is	ON	G
REMOVE	jumper between TP2 and TP4 on the PCB in 1CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 1EF2 is	OFF	G
VERIFY	that vent 1AV2 is	CLOSED	G
VERIFY	that vent 1AV1 is	OFF	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 1AS1		G

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(Attachment 2 cont'd)

Sensor 1AS2 (ODH box 1CB4)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 1CB4		G
VERIFY	that with Operator Interface that 1AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 1CB4 is	FLASHING	G
VERIFY	that the sonalerts on 1CB4 are	SOUNDING	G
VERIFY	that fan 1EF3 is	ON	G
VERIFY	that vent 1AV2 is	OPEN	G
VERIFY	that vent 1AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 1CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 1EF3 is	OFF	G
VERIFY	that vent 1AV2 is	CLOSED	G
VERIFY	that vent 1AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **1AS2** **G**

Sensor 1AS3 (ODH box 1CB5)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 1CB5		G
VERIFY	that with Operator Interface that 1AS3 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 1CB5 is	FLASHING	G
VERIFY	that the sonalerts on 1CB5 are	SOUNDING	G
VERIFY	that fan 1EF3 is	ON	G
VERIFY	that vent 1AV2 is	OPEN	G
VERIFY	that vent 1AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 1CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 1EF3 is	OFF	G
VERIFY	that vent 1AV2 is	CLOSED	G
VERIFY	that vent 1AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **1AS3** **G**

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(Attachment 2 cont'd)

Sensor 2XAS1 (ODH box 2XCB3)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2XCB3		G
VERIFY	that with Operator Interface that 2XAS1 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 2XCB3 is	FLASHING	G
VERIFY	that the sonalerts on 2XCB3 are	SOUNDING	G
VERIFY	that fan 2XEF1 is	ON	G
VERIFY	that vent 2XAV1 is	OPEN	G
VERIFY	that vent 2XAV2 is	OPEN	G
VERIFY	that vent 2XAV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2XCB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2XEF1 is	OFF	G
VERIFY	that vent 2XAV1 is	CLOSED	G
VERIFY	that vent 2XAV2 is	CLOSED	G
VERIFY	that vent 2XAV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2XAS1** **G**

Sensor 2XAS2 (ODH box 2XCB2)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2XCB2		G
VERIFY	that with Operator Interface that 2XAS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 2XCB2 is	FLASHING	G
VERIFY	that the sonalerts on 2XCB2 are	SOUNDING	G
VERIFY	that fan 2XEF1 is	ON	G
VERIFY	that vent 2XAV1 is	OPEN	G
VERIFY	that vent 2XAV2 is	OPEN	G
VERIFY	that vent 2XAV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2XCB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2XEF1 is	OFF	G
VERIFY	that vent 2XAV1 is	CLOSED	G
VERIFY	that vent 2XAV2 is	CLOSED	G
VERIFY	that vent 2XAV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2XAS2** **G**

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(Attachment 2 cont'd)

Sensor 2XAS3 (ODH box 2XCB1)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2XCB1		G
VERIFY	that with Operator Interface that 2XAS3 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 2XCB1 are	FLASHING	G
VERIFY	that the sonalerts on 2XCB1 are	SOUNDING	G
VERIFY	that fan 2XEF1 is	ON	G
VERIFY	that vent 2XAV1 is	OPEN	G
VERIFY	that vent 2XAV2 is	OPEN	G
VERIFY	that vent 2XAV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2XCB1		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2XEF1 is	OFF	G
VERIFY	that vent 2XAV1 is	CLOSED	G
VERIFY	that vent 2XAV2 is	CLOSED	G
VERIFY	that vent 2XAV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2XAS3** **G**

Sensor 2AS1 (ODH box 2CB2)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2CB2		G
VERIFY	that with Operator Interface that 2AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 2CB2 is	FLASHING	G
VERIFY	that the sonalerts on 2CB2 are	SOUNDING	G
VERIFY	that fan 2EF1 is	ON	G
VERIFY	that vent 2XAV2 is	OPEN	G
VERIFY	that vent 2AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2EF1 is	OFF	G
VERIFY	that vent 2XAV2 is	CLOSED	G
VERIFY	that vent 2AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2AS1** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 2 cont'd)

Sensor 2AS2 (ODH box 2CB3)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2CB3		G
VERIFY	with Operator Interface that 2AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 2CB3 is	FLASHING	G
VERIFY	that the sonalerts on 2CB3 are	SOUNDING	G
VERIFY	that fan 2EF2 is	ON	G
VERIFY	that vent 2AV1 is	OPEN	G
VERIFY	that vent 2AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2EF1 is	OFF	G
VERIFY	that vent 2AV1 is	CLOSED	G
VERIFY	that vent 2AV2 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2AS2** **G**

Sensor 2AS3 (ODH box 2CB4)

PLACE	PEER 11 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 2CB4		G
VERIFY	that with Operator Interface that 2AS3 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 2CB4 is	FLASHING	G
VERIFY	that the sonalerts on 2CB4 are	SOUNDING	G
VERIFY	that fan 2EF2 is	ON	G
VERIFY	that vent 2AV1 is	OPEN	G
VERIFY	that vent 2AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 2CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 2EF2 is	OFF	G
VERIFY	that vent 2AV1 is	CLOSED	G
VERIFY	that vent 2AV2 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2AS3** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 2 cont'd)

Test **Emergency fan ON/OFF** controls at **2GE2**.

PRESS	emergency fan ON button at gate 2GE2		G
VERIFY	that fan 1EF2 is	ON	G
VERIFY	that fan 1EF3 is	ON	G
VERIFY	that fan 1EF4 is	ON	G
VERIFY	that fan 2XEF1 is	ON	G
VERIFY	that fan 2EF1 is	ON	G
VERIFY	that fan 2EF2 is	ON	G
VERIFY	that fan 3EF1 is	ON	G
VERIFY	that vent 1AV2 is	OPEN	G
VERIFY	that vent 1AV3 is	OPEN	G
VERIFY	that vent 2XAV1 is	OPEN	G
VERIFY	that vent 2XAV2 is	OPEN	G
VERIFY	that vent 2XAV3 is	OPEN	G
VERIFY	that vent 2AV1 is	OPEN	G
VERIFY	that vent 2AV2 is	OPEN	G
VERIFY	that vent 3AV1 is	OPEN	G
VERIFY	that vent 1AV1 is	ON	G
PRESS	emergency fan OFF button at gate 2GE2		
AFTER	90 seconds from ON command,		
VERIFY	that fan 1EF2 is	OFF	G
VERIFY	that fan 1EF3 is	OFF	G
VERIFY	that fan 1EF4 is	OFF	G
VERIFY	that fan 2XEF1 is	OFF	G
VERIFY	that fan 2EF1 is	OFF	G
VERIFY	that fan 2EF2 is	OFF	G
VERIFY	that fan 3EF1 is	OFF	G
VERIFY	that vent 1AV2 is	CLOSED	G
VERIFY	that vent 1AV3 is	CLOSED	G
VERIFY	that vent 2XAV1 is	CLOSED	G
VERIFY	that vent 2XAV2 is	CLOSED	G
VERIFY	that vent 2XAV3 is	CLOSED	G
VERIFY	that vent 2AV1 is	CLOSED	G
VERIFY	that vent 2AV2 is	CLOSED	G
VERIFY	that vent 2AV3 is	CLOSED	G
VERIFY	that vent 1AV1 is	OFF	G
CHECK	for test acceptance of 2GE2 Emergency ON/OFF fan controls		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 2 cont'd)

. Test response of ODH sensor for the **1002B Service Building**.

. Sensor **2XAS4**; (ODH box **2XCB4**)

OPEN	ODH box 2XCB4		
PLACE	a jumper between TP2 and TP4 in 2XCB4		G
VERIFY	with Operator Interface that 2XAS4 is	TRIPPED	G
VERIFY	that blue strobe on 2XCB4 is	FLASHING	G
VERIFY	that the sonalerts on 2XCB4 are	SOUNDING	G
VERIFY	that 1002B fan is	ON	G
VERIFY	that 1002B vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 2XCB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1002B fan is	OFF	G
VERIFY	that 1002B vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **2XAS4** **G**

. Test response of External Gates **2GE1** & **2GE2** for Pass or Fail.

PLACE	PEER 11 in Safe Access (Mode 2).		G
VERIFY	that PEER 11 is in	MODE 2	G
ATTEMPT	to open gate 2GE1 with Super blue Card	FAIL	G
OPEN	2GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 2GE1		G

CHECK for test acceptance of Gate **2GE1** **G**

VERIFY	that PEER 11 is still in	MODE 2	G
ATTEMPT	to open gate 2GE2 with Super blue Card	FAIL	G
OPEN	2GE2 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 2GE2		G

CHECK for test acceptance of Gate **2GE2** **G**

ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS

Attachment 3

PASS Recertification CHECKOFF LIST
PEER 9 ODH (4 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 9.

ODH devices to be tested: **Sensors:** 3AS1, 3AS2, 4XAS1, 4XAS2, 4XAS3, 4AS1 & 4AS2; **Fans** 3EF2, 4XEF1, 4XEF2, 4EF1 & 5EF1 ; **Vents** 3AV2, 3AV3, 4XAV1, 4XAV2, 4XAV3 & 4AV1; **Bldg. 1004B Fan and Vent; Fans and Vents in adjacent zones 2Z2 and 5Z1.**

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor **3AS1 (ODH box 3CB2)**

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 3CB2		G
VERIFY	that with Operator Interface that 3AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 3CB2 are	FLASHING	G
VERIFY	that the sonalerts on 3CB2 are	SOUNDING	G
VERIFY	that fan 3EF2 is	ON	G
VERIFY	that vent 3AV2 is	OPEN	G
VERIFY	that vent 3AV1 is	ON	G
REMOVE	jumper between TP2 and TP4 on the PCB in 3CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 3EF2 is	OFF	G
VERIFY	that vent 3AV2 is	CLOSED	G
VERIFY	that vent 3AV1 is	OFF	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 3AS1		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 3 cont'd)

Sensor 3AS2 (ODH box 3CB4)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 3CB4		G
VERIFY	that with Operator Interface that 3AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 3CB4 is	FLASHING	G
VERIFY	that the sonalerts on 3CB4 are	SOUNDING	G
VERIFY	that fan 4XEF1 is	ON	G
VERIFY	that vent 3AV2 is	OPEN	G
VERIFY	that vent 4XAV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 3CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 4XEF1 is	OFF	G
VERIFY	that vent 3AV2 is	CLOSED	G
VERIFY	that vent 4XAV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **3AS2** **G**

Sensor 4XAS1 (ODH box 4XCB2)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 4XCB2		G
VERIFY	that with Operator Interface that 4XAS1 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 4XCB2 is	FLASHING	G
VERIFY	that the sonalerts on 4XCB2 are	SOUNDING	G
VERIFY	that fan 4XEF1 is	ON	G
VERIFY	that vent 3AV2 is	OPEN	G
VERIFY	that vent 4XAV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 4XCB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 4XEF1 is	OFF	G
VERIFY	that vent 3AV2 is	CLOSED	G
VERIFY	that vent 4XAV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4XAS1** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 3 cont'd)

Sensor 4XAS2 (ODH box 4XCB4)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 4XCB4		G
VERIFY	that with Operator Interface that 4XAS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 4XCB4 is	FLASHING	G
VERIFY	that the sonalerts on 4XCB4 are	SOUNDING	G
VERIFY	that fan 4XEF2 is	ON	G
VERIFY	that vent 4XAV1 is	OPEN	G
VERIFY	that vent 4XAV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 4XCB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 4XEF2 is	OFF	G
VERIFY	that vent 4XAV1 is	CLOSED	G
VERIFY	that vent 4XAV2 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4XAS2** **G**

Sensor 4XAS3 (ODH box 4XCB5)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 4XCB5		G
VERIFY	that with Operator Interface that 4XAS3 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 4XCB5 is	FLASHING	G
VERIFY	that the sonalerts on 4XCB5 are	SOUNDING	G
VERIFY	that fan 4XEF2 is	ON	G
VERIFY	that fan 4EF1 is	ON	G
VERIFY	that vent 4XAV2 is	OPEN	G
VERIFY	that vent 4XAV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 4XCB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 4XEF2 is	OFF	G
VERIFY	that fan 4EF1 is	OFF	G
VERIFY	that vent 4XAV2 is	CLOSED	G
VERIFY	that vent 4XAV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4XAS3** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 3 cont'd)

Sensor 4AS1 (ODH box 4CB1)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 4CB1		G
VERIFY	that with Operator Interface that 4AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 4CB1 is	FLASHING	G
VERIFY	that the sonalerts on 4CB1 are	SOUNDING	G
VERIFY	that fan 4EF1 is	ON	G
VERIFY	that vent 4XAV2 is	OPEN	G
VERIFY	that vent 4AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 4CB1		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 4EF1 is	OFF	G
VERIFY	that vent 4XAV2 is	CLOSED	G
VERIFY	that vent 4AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4AS1** **G**

Sensor 4AS2 (ODH box 4CB2)

PLACE	PEER 9 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 4CB2		G
VERIFY	with Operator Interface that 4AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 4CB2 is	FLASHING	G
VERIFY	that the sonalerts on 4CB2 are	SOUNDING	G
VERIFY	that fan 5EF1 is	ON	G
VERIFY	that vent 4AV1 is	OPEN	G
VERIFY	that req for P7 Fans & Vents on is	ON	G
REMOVE	jumper between TP2 and TP4 on the PCB in 4CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 5EF1 is	OFF	G
VERIFY	that vent 4AV1 is	CLOSED	G
VERIFY	that req for P7 Fans & Vents on is	OFF	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4AS2** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 3 cont'd)

Test **Emergency fan ON/OFF** controls at **4GE2**.

PRESS	emergency fan ON button at gate 2GE2		G
VERIFY	that fan 3EF2 is	ON	G
VERIFY	that fan 4XEF1 is	ON	G
VERIFY	that fan 4XEF2 is	ON	G
VERIFY	that fan 4EF1 is	ON	G
VERIFY	that fan 5EF1 is	ON	G
VERIFY	that vent 3AV2 is	OPEN	G
VERIFY	that vent 3AV3 is	OPEN	G
VERIFY	that vent 4XAV1 is	OPEN	G
VERIFY	that vent 4XAV2 is	OPEN	G
VERIFY	that vent 4XAV3 is	OPEN	G
VERIFY	that vent 4AV1 is	OPEN	G
VERIFY	that vent 3AV1 is	ON	G
VERIFY	that req for P7 Fans & Vents is	ON	G
PRESS	emergency fan OFF button at gate 4GE2		
AFTER	90 seconds from ON command,		
VERIFY	that fan 3EF2 is	OFF	G
VERIFY	that fan 4XEF1 is	OFF	G
VERIFY	that fan 4XEF2 is	OFF	G
VERIFY	that fan 4EF1 is	OFF	G
VERIFY	that fan 5EF1 is	OFF	G
VERIFY	that vent 3AV2 is	CLOSED	G
VERIFY	that vent 3AV3 is	CLOSED	G
VERIFY	that vent 4XAV1 is	CLOSED	G
VERIFY	that vent 4XAV2 is	CLOSED	G
VERIFY	that vent 4XAV3 is	CLOSED	G
VERIFY	that vent 4AV1 is	CLOSED	G
VERIFY	that vent 3AV1 is	OFF	G
VERIFY	that req for P7 Fans & Vents is	OFF	G
CHECK	for test acceptance of 2GE2 Emergency ON/OFF fan controls		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 3 cont'd)

. Test response of ODH sensor for the **1004B Service Building**.

. Sensor **4XAS4**; (ODH box **4XCB7**)

OPEN	ODH box 4XCB7		
PLACE	a jumper between TP2 and TP4 in 4XCB7		G
VERIFY	with Operator Interface that 4XAS4 is	TRIPPED	G
VERIFY	that blue strobe on 4XCB7 is	FLASHING	G
VERIFY	that the sonalerts on 4XCB7 are	SOUNDING	G
VERIFY	that 1004B fan is	ON	G
VERIFY	that 1004B vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 4XCB7		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1004B fan is	OFF	G
VERIFY	that 1004B vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **4XAS4** **G**

. Test response of External Gates **4GE1, 4GE2 & 4GE3** for Pass or Fail.

PLACE	PEER 9 in Safe Access (Mode 2) .		G
VERIFY	that PEER 9 is in	MODE 2	G
ATTEMPT	to open gate 4GE1 with Super blue Card	FAIL	G
OPEN	4GE1 with #11 RF SWEEP key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 4GE1		G

CHECK for test acceptance of Gate **4GE1** **G**

VERIFY	that PEER 9 is still in	MODE 2	G
ATTEMPT	to open gate 4GE2 with Super blue Card	FAIL	G
OPEN	4GE2 with #10 RF CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 4GE2		G

CHECK for test acceptance of Gate **4GE2** **G**

VERIFY	that PEER 9 is still in	MODE 2	G
ATTEMPT	to open gate 4GE3 with Super blue Card	FAIL	G
OPEN	4GE3 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 4GE3		G

CHECK for test acceptance of Gate **4GE3** **G**

ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS

Attachment 4

PASS Recertification CHECKOFF LIST
PEER 7 ODH (6 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 7.

ODH devices to be tested: **Sensors: 5AS1, 5AS2, 6XAS1, 6XAS2, 6XAS3, 6AS1, 6AS2 & 6AS3; Fans 5EF2, 5EF3, 5EF4, 6XEF1, 6XEF2, 6EF1, 6EF2, 6EF3 & 7EF1 ; Vents 5AV1, 5AV2, 5AV3, 6XAV1, 6XAV2, 6AV1, 6AV2, 6AV3 & 7AV1; Bldg. 1006B Fan and Vent; Fans and Vents in adjacent zones 4Z2 and 7Z1.**

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor **5AS1 (ODH box 5CB3)**

PLACE	PEER 7 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 5CB3		G
VERIFY	that with Operator Interface that 5AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 5CB3 are	FLASHING	G
VERIFY	that the sonalerts on 5CB3 are	SOUNDING	G
VERIFY	that fan 5EF2 is	ON	G
VERIFY	that vent 5AV1 is	OPEN	G
VERIFY	that vent 5AV2 is	OPEN	G
VERIFY	that vent 5AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 5CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 5EF2 is	OFF	G
VERIFY	that vent 5AV1 is	CLOSED	G
VERIFY	that vent 5AV2 is	CLOSED	G
VERIFY	that vent 5AV3 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 5AS1		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 4 cont'd)

Sensor 5AS2 (ODH box 5CB4)

PLACE	PEER 7 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 5CB4		G
VERIFY	that with Operator Interface that 5AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 5CB4 is	FLASHING	G
VERIFY	that the sonalerts on 5CB4 are	SOUNDING	G
VERIFY	that fan 5EF3 is	ON	G
VERIFY	that vent 5AV2 is	OPEN	G
VERIFY	that vent 5AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 5CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 5EF3 is	OFF	G
VERIFY	that vent 5AV2 is	CLOSED	G
VERIFY	that vent 5AV3 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 5AS2			G

Sensor 6AS1 (ODH box 6CB2)

PLACE	PEER 7 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 6CB2		G
VERIFY	that with Operator Interface that 6AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 6CB2 is	FLASHING	G
VERIFY	that the sonalerts on 6CB2 are	SOUNDING	G
VERIFY	that fan 6EF1 is	ON	G
VERIFY	that fan 6EF2 is	ON	G
VERIFY	that vent 6AV1 is	OPEN	G
VERIFY	that vent 6AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 6CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 6EF1 is	OFF	G
VERIFY	that fan 6EF2 is	OFF	G
VERIFY	that vent 6AV1 is	CLOSED	G
VERIFY	that vent 6AV2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 6AS1			G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 4 cont'd)

Sensor 6AS2 (ODH box 6CB3)

PLACE	PEER 7 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 6CB3		G
VERIFY	with Operator Interface that 6AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 6CB3 is	FLASHING	G
VERIFY	that the sonalerts on 6CB3 are	SOUNDING	G
VERIFY	that fan 6EF3 is	ON	G
VERIFY	that vent 6AV1 is	OPEN	G
VERIFY	that vent 6AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 6CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 6EF3 is	OFF	G
VERIFY	that vent 6AV1 is	CLOSED	G
VERIFY	that vent 6AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **6AS2** **G**

Sensor 6AS3 (ODH box 6CB5)

PLACE	PEER 7 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 6CB5		G
VERIFY	with Operator Interface that 6AS3 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 6CB5 is	FLASHING	G
VERIFY	that the sonalerts on 6CB5 are	SOUNDING	G
VERIFY	that fan 7EF1 is	ON	G
VERIFY	that vent 6AV3 is	OPEN	G
VERIFY	that vent 7AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 6CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 7EF1 is	OFF	G
VERIFY	that vent 6AV3 is	CLOSED	G
VERIFY	that vent 7AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **6AS3** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 4 cont'd)

Test Emergency fan ON/OFF controls at 5GE1.

PRESS	emergency fan ON button at gate 5GE1		G
VERIFY	that fan 5EF2 is	ON	G
VERIFY	that fan 5EF3 is	ON	G
VERIFY	that fan 5EF4 is	ON	G
VERIFY	that vent 5AV1 is	OPEN	G
VERIFY	that vent 5AV2 is	OPEN	G
VERIFY	that vent 5AV3 is	OPEN	G
VERIFY	that req for P9 Fans & Vents is	ON	G
PRESS	emergency fan OFF button at gate 5GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 5EF2 is	OFF	G
VERIFY	that fan 5EF3 is	OFF	G
VERIFY	that fan 5EF4 is	OFF	G
VERIFY	that vent 5AV1 is	CLOSED	G
VERIFY	that vent 5AV2 is	CLOSED	G
VERIFY	that vent 5AV3 is	CLOSED	G
VERIFY	that req for P9 Fans & Vents is	OFF	G

CHECK for test acceptance of **5GE1 Emergency ON/OFF fan controls** **G**

Test Emergency fan ON/OFF controls at 6GE1.

PRESS	emergency fan ON button at gate 6GE1		G
VERIFY	that fan 6XEF1 is	ON	G
VERIFY	that fan 6XEF2 is	ON	G
VERIFY	that vent 6XAV1 is	OPEN	G
VERIFY	that vent 6XAV2 is	OPEN	G
PRESS	emergency fan OFF button at gate 6GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 6XEF1 is	OFF	G
VERIFY	that fan 6XEF2 is	OFF	G
VERIFY	that vent 6XAV1 is	CLOSED	G
VERIFY	that vent 6XAV2 is	CLOSED	G

CHECK for test acceptance of **6GE1 Emergency ON/OFF fan controls** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 4 cont'd)

Test **Emergency fan ON/OFF** controls at **6GE3**.

PRESS	emergency fan ON button at gate 6GE3		G
VERIFY	that fan 6EF1 is	ON	G
VERIFY	that fan 6EF2 is	ON	G
VERIFY	that fan 6EF3 is	ON	G
VERIFY	that fan 7EF1 is	ON	G
VERIFY	that vent 6AV1 is	OPEN	G
VERIFY	that vent 6AV2 is	OPEN	G
VERIFY	that vent 6AV3 is	OPEN	G
VERIFY	that vent 7AV1 is	OPEN	G
VERIFY	that req for P17 Fans & Vents is	ON	G
PRESS	emergency fan OFF button at gate 6GE3		
AFTER	90 seconds from ON command,		
VERIFY	that fan 6EF1 is	OFF	G
VERIFY	that fan 6EF2 is	OFF	G
VERIFY	that fan 6EF3 is	OFF	G
VERIFY	that fan 7EF1 is	OFF	G
VERIFY	that vent 6AV1 is	CLOSED	G
VERIFY	that vent 6AV2 is	CLOSED	G
VERIFY	that vent 6AV3 is	CLOSED	G
VERIFY	that vent 7AV1 is	CLOSED	G
VERIFY	that req for P17 Fans & Vents is	OFF	G
CHECK	for test acceptance of 6GE3 Emergency ON/OFF fan controls		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 4 cont'd)

. Test response of ODH sensor for the **1006B Service Building**.

. Sensor **6XAS5**; (ODH box **6XCB6**)

OPEN	ODH box 6XCB6		
PLACE	a jumper between TP2 and TP4 in 6XCB6		G
VERIFY	with Operator Interface that 6XAS5 is	TRIPPED	G
VERIFY	that blue strobe on 6XCB6 is	FLASHING	G
VERIFY	that the sonalerts on 6XCB6 are	SOUNDING	G
VERIFY	that 1006B fan is	ON	G
VERIFY	that 1006B vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 6XCB6		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1006B fan is	OFF	G
VERIFY	that 1006B vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **6XAS5** **G**

. Test response of External Gates **5GE1**, **6GE1**, **6GE2** & **6GE3** for Pass or Fail.

VERIFY	that PEER 7 is still in	MODE 2	G
ATTEMPT	to open gate 5GE1 with Super blue Card	FAIL	G
OPEN	5GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 5GE1		G

CHECK for test acceptance of Gate **5GE1** **G**

PLACE	PEER 7 in Safe Access (Mode 2) .		G
VERIFY	that PEER 7 is in	MODE 2	G
ATTEMPT	to open gate 6GE1 with Super blue Card	FAIL	G
OPEN	6GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 6GE1		G

CHECK for test acceptance of Gate **6GE1** **G**

VERIFY	that PEER 7 is still in	MODE 2	G
ATTEMPT	to open gate 6GE2 with Super blue Card	FAIL	G
OPEN	6GE2 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 6GE2		G

CHECK for test acceptance of Gate **6GE2** **G**

VERIFY	that PEER 7 is still in	MODE 2	G
ATTEMPT	to open gate 6GE3 with Super blue Card	FAIL	G
OPEN	6GE3 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 6GE3		G

CHECK for test acceptance of Gate **6GE3** **G**

ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS

Attachment 5

PASS Recertification CHECKOFF LIST
PEER 17 ODH (8 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 17.

ODH devices to be tested: **Sensors:** 7AS1, 7AS2, 7AS3, 8AS1, 8AS2, 8AS3 & 8AS4; Fans 7EF2, 7EF3, 8XEF1, 8EF0, 8EF1 & 9EF1 ; Vents 7AV2, 7AV3, 7AV4, 7AV5, 8XSF1, 8AV0, 8AV1, 8AV2, 8AV3, 8AV4 & 9AV1; Bldg. 1008B Fan and Vent; Fans and Vents in adjacent zones 6Z2 and 9Z1.

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor 7AS1 (ODH box 7CB3)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 7CB3		G
VERIFY	that with Operator Interface that 7AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 7CB3 are	FLASHING	G
VERIFY	that the sonalerts on 7CB3 are	SOUNDING	G
VERIFY	that fan 7EF2 is	ON	G
VERIFY	that vent 7AV2 is	OPEN	G
VERIFY	that vent 7AV1 is	ON	G
REMOVE	jumper between TP2 and TP4 on the PCB in 7CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 7EF2 is	OFF	G
VERIFY	that vent 7AV2 is	CLOSED	G
VERIFY	that vent 7AV1 is	OFF	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 7AS1		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Sensor 7AS2 (ODH box 7CB4)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 7CB4		G
VERIFY	that with Operator Interface that 7AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 7CB4 is	FLASHING	G
VERIFY	that the sonalerts on 7CB4 are	SOUNDING	G
VERIFY	that fan 7EF3 is	ON	G
VERIFY	that vent 7AV2 is	OPEN	G
VERIFY	that vent 7AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 7CB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 7EF3 is	OFF	G
VERIFY	that vent 7AV2 is	CLOSED	G
VERIFY	that vent 7AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **7AS2** **G**

Sensor 7AS3 (ODH box 7CB5)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 7CB5		G
VERIFY	that with Operator Interface that 7AS3 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 7CB5 is	FLASHING	G
VERIFY	that the sonalerts on 7CB5 are	SOUNDING	G
VERIFY	that fan 7EF3 is	ON	G
VERIFY	that vent 7AV4 is	OPEN	G
VERIFY	that vent 7AV5 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 7CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 7EF3 is	OFF	G
VERIFY	that vent 7AV4 is	CLOSED	G
VERIFY	that vent 7AV5 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **7AS3** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Sensor 8AS1 (ODH box 8CB1)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 8CB1		G
VERIFY	that with Operator Interface that 8AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 8CB1 is	FLASHING	G
VERIFY	that the sonalerts on 8CB1 are	SOUNDING	G
VERIFY	that fan 8EF0 is	ON	G
VERIFY	that vent 8AV0 is	OPEN	G
VERIFY	that vent 8AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 8CB1		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 8EF0 is	OFF	G
VERIFY	that vent 8AV0 is	CLOSED	G
VERIFY	that vent 8AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **8AS1** **G**

Sensor 8AS2 (ODH box 8CB2)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 8CB2		G
VERIFY	with Operator Interface that 8AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 8CB2 is	FLASHING	G
VERIFY	that the sonalerts on 8CB2 are	SOUNDING	G
VERIFY	that fan 8EF0 is	ON	G
VERIFY	that vent 8AV2 is	OPEN	G
VERIFY	that vent 8AV3 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 8CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 8EF0 is	OFF	G
VERIFY	that vent 8AV2 is	CLOSED	G
VERIFY	that vent 8AV3 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **8AS2** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Sensor 8AS3 (ODH box 8CB3)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 8CB3		G
VERIFY	with Operator Interface that 8AS3 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 8CB3 is	FLASHING	G
VERIFY	that the sonalerts on 8CB3 are	SOUNDING	G
VERIFY	that fan 8EF1 is	ON	G
VERIFY	that vent 8AV3 is	OPEN	G
VERIFY	that vent 8AV4 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 8CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 8EF1 is	OFF	G
VERIFY	that vent 8AV3 is	CLOSED	G
VERIFY	that vent 8AV4 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **8AS3** **G**

Sensor 8AS4 (ODH box 8CB5)

PLACE	PEER 17 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the appropriate PCB in 8CB5		G
VERIFY	with Operator Interface that 8AS4 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 8CB5 is	FLASHING	G
VERIFY	that the sonalerts on 8CB5 are	SOUNDING	G
VERIFY	that fan 9EF1 is	ON	G
VERIFY	that vent 8AV4 is	OPEN	G
VERIFY	that vent 9AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 8CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 9EF1 is	OFF	G
VERIFY	that vent 8AV4 is	CLOSED	G
VERIFY	that vent 9AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **8AS4** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Test **Emergency fan ON/OFF** controls at **7GE1**.

PRESS	emergency fan ON button at gate 7GE1		G
VERIFY	that fan 7EF2 is	ON	G
VERIFY	that fan 7EF3 is	ON	G
VERIFY	that vent 7AV2 is	OPEN	G
VERIFY	that vent 7AV3 is	OPEN	G
VERIFY	that vent 7AV4 is	OPEN	G
VERIFY	that vent 7AV5 is	OPEN	G
VERIFY	that vent 7AV1 is	ON	G
PRESS	emergency fan OFF button at gate 7GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 7EF2 is	OFF	G
VERIFY	that fan 7EF3 is	OFF	G
VERIFY	that vent 7AV2 is	CLOSED	G
VERIFY	that vent 7AV3 is	CLOSED	G
VERIFY	that vent 7AV4 is	CLOSED	G
VERIFY	that vent 7AV5 is	CLOSED	G
VERIFY	that vent 7AV1 is	OFF	G

CHECK for test acceptance of **7GE1 Emergency ON/OFF** fan controls **G**

Test **Emergency fan ON/OFF** controls at **8GE1**.

PRESS	emergency fan ON button at gate 8GE1		G
VERIFY	that fan 8XEF1 is	ON	G
VERIFY	that vent 8XSF1 is	OPEN	G
PRESS	emergency fan OFF button at gate 8GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 8XEF1 is	OFF	G
VERIFY	that vent 8XSF1 is	CLOSED	G

CHECK for test acceptance of **8GE1 Emergency ON/OFF** fan controls **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Test **Emergency fan ON/OFF** controls at **8GE2**.

PRESS	emergency fan ON button at gate 8GE2		G
VERIFY	that fan 8EF0 is	ON	G
VERIFY	that fan 8EF1 is	ON	G
VERIFY	that fan 9EF1 is	ON	G
VERIFY	that vent 8AV0 is	OPEN	G
VERIFY	that vent 8AV1 is	OPEN	G
VERIFY	that vent 8AV2 is	OPEN	G
VERIFY	that vent 8AV3 is	OPEN	G
VERIFY	that vent 8AV4 is	OPEN	G
VERIFY	that vent 9AV1 is	OPEN	G
PRESS	emergency fan OFF button at gate 8GE2		
AFTER	90 seconds from ON command,		
VERIFY	that fan 8EF0 is	OFF	G
VERIFY	that fan 8EF1 is	OFF	G
VERIFY	that fan 9EF1 is	OFF	G
VERIFY	that vent 8AV0 is	CLOSED	G
VERIFY	that vent 8AV1 is	CLOSED	G
VERIFY	that vent 8AV2 is	CLOSED	G
VERIFY	that vent 8AV3 is	CLOSED	G
VERIFY	that vent 8AV4 is	CLOSED	G
VERIFY	that vent 9AV1 is	CLOSED	G

CHECK for test acceptance of **8GE2 Emergency ON/OFF** fan controls **G**

. Test response of ODH sensor for the **1008B Service Building**.

. Sensor **8XAS3**; (ODH box **8XCB4**)

OPEN	ODH box 8XCB4		
PLACE	a jumper between TP2 and TP4 in 8XCB4		G
VERIFY	with Operator Interface that 8XAS3 is	TRIPPED	G
VERIFY	that blue strobe on 8XCB4 is	FLASHING	G
VERIFY	that 1008B fan is	ON	G
VERIFY	that 1008B vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 8XCB4		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1008B fan is	OFF	G
VERIFY	that 1008B vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **8XAS3** **G**

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**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 5 cont'd)

Test response of External Gates **7GE1**, **8GE1** & **8GE2** for Pass or Fail.

PLACE	PEER 7 in Safe Access (Mode 2) .		G
VERIFY	that PEER 7 is in	MODE 2	G
ATTEMPT	to open gate 7GE1 with Super blue Card	FAIL	G
OPEN	7GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 7GE1		G

CHECK for test acceptance of Gate **7GE1** G

VERIFY	that PEER 7 is still in	MODE 2	G
ATTEMPT	to open gate 8GE1 with Super blue Card	FAIL	G
OPEN	8GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 8GE1		G

CHECK for test acceptance of Gate **8GE1** G

VERIFY	that PEER 7 is still in	MODE 2	G
ATTEMPT	to open gate 8GE2 with Super blue Card	FAIL	G
OPEN	8GE2 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 8GE2		G

CHECK for test acceptance of Gate **8GE2**

ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS

Attachment 6

PASS Recertification CHECKOFF LIST

PEER 15 ODH (10 O'CLOCK)

Purpose: To "re-certify an ODH system for PEER 15.

ODH devices to be tested: **Sensors: 9AS1, 9AS2, 10XAS1, 10XAS2, 10AS1, 10AS2 & 10AS3; Fans 9EF2, 10XEF1, 10XEF2, 10EF1 & 11EF1; Vents 9AV2, 9AV3, 9AV4, 10XSF1, 10XSF2, 10AV1, 10AV2, 10AV3, 10AV4 & 11AV1; Bldg. 1010B Fan and Vent; Fans and Vents in adjacent zones 8Z2 and 11Z1.**

Check operation of individual sensor inputs: Confirmation of proper operation of vents, fans and ODH sensors may be done via the PV1400e display.

NOTE: Fans may not shut off immediately when the sensor is cleared; there is a minimum 90 second time delay following fan initiation before fans will be allowed to shut down. All actions refer to the Division A or B system being re-certified.

Sensor **9AS1 (ODH box 9CB3)**

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 9CB3		G
VERIFY	that with Operator Interface that 9AS1 is Tripped	TRIPPED	G
VERIFY	that the blue strobe on 9CB3 are	FLASHING	G
VERIFY	that the sonalerts on 9CB3 are	SOUNDING	G
VERIFY	that fan 9EF2 is	ON	G
VERIFY	that vent 9AV2 is	OPEN	G
VERIFY	that vent 9AV1 is	ON	G
REMOVE	jumper between TP2 and TP4 on the PCB in 9CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 9EF2 is	OFF	G
VERIFY	that vent 9AV2 is	CLOSED	G
VERIFY	that vent 9AV1 is	OFF	G
RESET	ODH condition from MCR		G
CHECK	for test acceptance of Sensor 9AS1		G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 6 cont'd)

Sensor 9AS2 (ODH box 9CB5)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 9CB5		
G			
VERIFY	that with Operator Interface that 9AS2 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 9CB5 is	FLASHING	G
VERIFY	that the sonalerts on 9CB5 are	SOUNDING	G
VERIFY	that fan 9EF2 is	ON	G
VERIFY	that vent 9AV4 is	OPEN	G
VERIFY	that vent 9AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 9CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 9EF2 is	OFF	G
VERIFY	that vent 9AV4 is	CLOSED	G
VERIFY	that vent 9AV1 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 9AS2			G

Sensor 10XAS1 (ODH box 10XCB1)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 10XCB1		G
VERIFY	that with Operator Interface that 10XAS1 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 10XCB1 is	FLASHING	G
VERIFY	that the sonalerts on 10XCB1 are	SOUNDING	G
VERIFY	that fan 10XEF1 is	ON	G
VERIFY	that fan 10XEF2 is	ON	G
VERIFY	that vent 10XSF1 is	OPEN	G
VERIFY	that vent 10XSF2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 10XCB1		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 10XEF1 is	OFF	G
VERIFY	that fan 10XEF2 is	OFF	G
VERIFY	that vent 10XSF1 is	CLOSED	G
VERIFY	that vent 10XSF2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 10XAS1			G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 6 cont'd)

Sensor 10XAS2 (ODH box 10XCB2)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 10XCB2		G
VERIFY	that with Operator Interface that 10XAS1 appropriate Div is	TRIPPED	G
VERIFY	that blue strobe on 10XCB2 is	FLASHING	G
VERIFY	that the sonalerts on 10XCB2 are	SOUNDING	G
VERIFY	that fan 10XEF1 is	ON	G
VERIFY	that fan 10XEF2 is	ON	G
VERIFY	that vent 10XSF1 is	OPEN	G
VERIFY	that vent 10XSF2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 10XCB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 10XEF1 is	OFF	G
VERIFY	that fan 10XEF2 is	OFF	G
VERIFY	that vent 10XSF1 is	CLOSED	G
VERIFY	that vent 10XSF2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 10XAS2			G

Sensor 10AS1 (ODH box 10CB2)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 10CB2		G
VERIFY	that with Operator Interface that 10AS1 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 10CB2 is	FLASHING	G
VERIFY	that the sonalerts on 10CB2 are	SOUNDING	G
VERIFY	that fan 10EF1 is	ON	G
VERIFY	that vent 10AV1 is	OPEN	G
VERIFY	that vent 10AV2 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 10CB2		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 10EF1 is	OFF	G
VERIFY	that vent 10AV1 is	CLOSED	G
VERIFY	that vent 10AV2 is	CLOSED	G
RESET	ODH condition from MCR		G
CHECK for test acceptance of Sensor 10AS1			G

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 6 cont'd)

Sensor 10AS2 (ODH box 10CB3)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 10CB3		G
VERIFY	with Operator Interface that 10AS2 appropriate Div is	TRIPPED	G
VERIFY	that the blue strobe on 10CB3 is	FLASHING	G
VERIFY	that the sonalerts on 10CB3 are	SOUNDING	G
VERIFY	that fan 10EF1 is	ON	G
VERIFY	that vent 10AV2 is	OPEN	G
VERIFY	that vent 10AV4 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 10CB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 10EF1 is	OFF	G
VERIFY	that vent 10AV2 is	CLOSED	G
VERIFY	that vent 10AV4 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **10AS2** **G**

Sensor 10AS3 (ODH box 10CB5)

PLACE	PEER 15 in Restricted Access (Mode 8)		G
PLACE	a jumper between TP2 and TP4 on the proper PCB in 10CB5		G
VERIFY	that with Operator Interface that 10AS3 is	TRIPPED	G
VERIFY	that the blue strobe on 10CB5 is	FLASHING	G
VERIFY	that the sonalerts on 10CB5 are	SOUNDING	G
VERIFY	that fan 11EF1 is	ON	G
VERIFY	that vent 10AV4 is	OPEN	G
VERIFY	that vent 11AV1 is	OPEN	G
REMOVE	jumper between TP2 and TP4 on the PCB in 10CB5		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that fan 11EF1 is	OFF	G
VERIFY	that vent 10AV4 is	CLOSED	G
VERIFY	that vent 11AV1 is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **10AS3** **G**

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

(Attachment 6 cont'd)

Test **Emergency fan ON/OFF** controls at **10GE1**.

PRESS	emergency fan ON button at gate 10GE1		G
VERIFY	that fan 9EF2 is	ON	G
VERIFY	that fan 10XEF1 is	ON	G
VERIFY	that fan 10XEF2 is	ON	G
VERIFY	that fan 10EF1 is	ON	G
VERIFY	that fan 11EF1 is	ON	G
VERIFY	that vent 9AV2 is	OPEN	G
VERIFY	that vent 9AV3 is	OPEN	G
VERIFY	that vent 9AV4 is	OPEN	G
VERIFY	that vent 10XSF1 is	OPEN	G
VERIFY	that vent 10XSF2 is	OPEN	G
VERIFY	that vent 10AV1 is	OPEN	G
VERIFY	that vent 10AV2 is	OPEN	G
VERIFY	that vent 10AV3 is	OPEN	G
VERIFY	that vent 10AV4 is	OPEN	G
VERIFY	that vent 11AV1 is	OPEN	G
VERIFY	that vent 9AV1 is	ON	G
PRESS	emergency fan OFF button at gate 10GE1		
AFTER	90 seconds from ON command,		
VERIFY	that fan 9EF2 is	OFF	G
VERIFY	that fan 10XEF1 is	OFF	G
VERIFY	that fan 10XEF2 is	OFF	G
VERIFY	that fan 10EF1 is	OFF	G
VERIFY	that fan 11EF1 is	OFF	G
VERIFY	that vent 9AV2 is	CLOSED	G
VERIFY	that vent 9AV3 is	CLOSED	G
VERIFY	that vent 9AV4 is	CLOSED	G
VERIFY	that vent 10XSF1 is	CLOSED	G
VERIFY	that vent 10XSF2 is	CLOSED	G
VERIFY	that vent 10AV1 is	CLOSED	G
VERIFY	that vent 10AV2 is	CLOSED	G
VERIFY	that vent 10AV3 is	CLOSED	G
VERIFY	that vent 10AV4 is	CLOSED	G
VERIFY	that vent 11AV1 is	CLOSED	G
VERIFY	that vent 9AV1 is	OFF	G
CHECK	for test acceptance of 10GE1 Emergency ON/OFF fan controls		G

ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL

- VALID FOR FIVE (5) WORKING DAYS

(Attachment 6 cont'd)

. Test response of ODH sensor for the **1010B Service Building**.

. Sensor **10XAS3**; (ODH box **10XCB3**)

OPEN	ODH box 10XCB3		
PLACE	a jumper between TP2 and TP4 in 10XCB3		G
VERIFY	with Operator Interface that 10XAS3 is	TRIPPED	G
VERIFY	that blue strobe on 10XCB3 is	FLASHING	G
VERIFY	that the sonalerts on 10XCB3 are	SOUNDING	G
VERIFY	that 1010B fan is	ON	G
VERIFY	that 1010B vent is	OPEN	G
REMOVE	jumper between TP2 and TP4 in 10XCB3		G
VERIFY	that all blue strobe lights and sonalerts are	OFF	G
VERIFY	that 1010B fan is	OFF	G
VERIFY	that 1010B vent is	CLOSED	G
RESET	ODH condition from MCR		G

CHECK for test acceptance of Sensor **10XAS3** G

. Test response of External Gate **10GE1** for Pass or Fail.

VERIFY	that PEER 15 is still in	MODE 2	G
ATTEMPT	to open gate 10GE1 with Super blue Card	FAIL	G
OPEN	10GE1 with #14 RC CA key and Simultaneous Release	SUCCESSFUL	G
CLOSE	gate 10GE1		G

CHECK for test acceptance of Gate **10GE1** G